Amendment to the Claims

1. (previously presented) A computer implemented method of generating an enhanced profile of an individual entity, the profile including for each member of the individual entity, a single observation having at least one variable describing historical transactions pertaining to that member, the method comprising:

generating at least one single entity profile of an individual entity having individual members, from historical transactions of the members of the individual entity;

generating at least one multiple entity profile of at least one multiple entity defined by a combination comprising individual entities and interacting pairs of entities, from historical transactions that include the members of each of the individual entities included in a multiple entity and that include interacting pairs of entities; and

enhancing at least one single entity profile using at least one multiple entity profile to generate the enhanced profile.

2. (original) The method of Claim 1, wherein enhancing at least one single entity profile using at least one multiple entity profile further comprises:

merging at least one multiple entity profile with at least one individual entity profile that have a common member to produce a merged profile; and

rolling up a merged profile with respect to a selected one of the individual entities to produce the enhanced profile.

3. (original) The method of Claim 1, further comprising:

providing at least one of a single entity profile, an enhanced profile, or a multiple entity profile as an input into a predictive model for predicting a transaction pertaining to an entity included in the profile.

4. (original) The method of Claim 1 further comprising:

providing at least one of a single entity profile, an enhanced profile, or a multiple entity profile as an input into a profile of a different entity.

5. (original) The method of Claim 1, further comprising:

deriving from at least one of a single entity profile, an enhanced profile, or a multiple entity profile statistics which summarize transactions pertaining to an entity included in the profile.

6. (original) The method of Claim 1, wherein each profile includes a plurality of variables, and generating at least one single entity profile of an individual entity having individual members further comprises:

for each member of an entity:

determining a peer group of the member; and

normalizing at least one profile variable of the entity with respect to the member's distance from other members in the member's peer group.

7. (original) The method of Claim 3, wherein a member's peer group is determined by a declared specialty of the member.

8. (original) The method of Claim 3, wherein a member's peer group is determined by transactions engaged in by the member.

9. (original) The method of Claim 1, wherein the entities are healthcare related entities.

10. (original) The method of Claim 1, wherein the entities include healthcare providers and patients.

11. (original) The method of Claim 1, wherein the entities include a healthcare related facility.

12. (original) The method of Claim 1, wherein the entities include a healthcare Claims processor.

13. (original) The method of Claim 10, wherein at least one multiple entity is a combination of a provider and a patient.

14. (original) The method of Claim 10, wherein an entity profile of a provider entity includes a procedure mix variable that measures a relative amount of activity a provider member has in each of a plurality of procedure categories.

15. (original) The method of Claim 14, wherein the amount of activity is relative to each provider member's peers.

16. (original) The method of Claim 14, wherein the procedure categories are defined by JDC9 codes.

17. (original) The method of Claim 14, wherein the procedure categories are defined by a clustering process on provider or patient historical transactions.

18. (original) The method of Claim 10, wherein an entity profile of a provider entity includes an age group concentration variable that measures activity of a provider member in each of a plurality of patient age groups relative to the provider member's peers.

19. (original) The method of Claim 10, wherein an entity profile of a provider entity includes a single-day activity variable that measures a frequency and magnitude of very-high activity days of a provider member.

20. (original) The method of Claim 10, wherein an entity profile of a provider entity includes a monthly activity variable that measures monthly activity of a provider member.

21. (original) The method of Claim 10, wherein the monthly activity measure is a distribution of monthly activity of a provider member relative to the provider member's peers.

22. (original) The method of Claim 20, wherein an entity profile of a provider entity includes a quarterly activity variable that measures quarterly activity of a provider member.

23. (original) The method of Claim 10, wherein an entity profile of a provider entity includes a group practice participation variable that identifies providers that are part of a group practice.

24. (original) The method of Claim 10, wherein an entity profile of a provider entity includes a client consecutive visit variable that measures a frequency with which a same member of a client entity visits a same provider member in a selected period of time.

25. (original) The method of Claim 10, wherein an entity profile of a provider entity includes a per-day activity variable that measures a provider member's daily activity level, according to at least one of:

number of services per day;
total dollars-paid per day;
number of clients per day;
total dollars-per-client per day; or
number-of-services-per-client per day.

26. (original) The method of Claim 10, wherein an entity profile of a provider entity includes a per-client activity variable that measures a provider member's activity level with respect to individual client entity members over a selected time period.

27. (original) The method of Claim 10, wherein an entity profile of a provider entity includes a multiple providers activity variable that measures, for each provider member, the activity of other provider members who provide services to clients of the provider member on a same day that the provider member provides services.

28. (original) The method of Claim 10, wherein an entity profile of a provider entity includes a ratio of procedure categories variable that measures for a provider member at least one ratio of one category of service provided by the provider member to another category of service provided by the provider member.

29. (original) The method of Claim 10, wherein an entity profile of a client includes a variable that measures an activity level of a non-repeatable service provided to a client member.

30. (original) The method of Claim 10, wherein an entity profile of an entity includes a variable that describes transactions of entity members with respect to the order of the transactions over time.

31. (previously presented) A computer implemented method of generating a profile of an entity, the profile including for each member of the entity, a single observation having at least one variable describing historical transactions pertaining to that member, the method comprising:

a direct profile process that generates a direct profile of an entity having members, from historical transactions of the members of the entity;

multiple applications of the direct profile process with respect to distinct entities, including at least one multiple entity comprising a combination of individual entities and interacting pairs of entities, to produce respective individual and multiple entity profiles;

an enhance process that enhances the profile of a first entity using a profile of a second entity; and

at least one application of the enhance process to enhance the profile of a multiple entity with the profile of a single entity by combining observations in the multiple entity profile that have a common member in the single entity profile.

32. (previously presented) A computer implemented method of generating an enhanced profile of a 1st entity, the 1st entity having a plurality of members, the enhanced profile of the 1st entity including for each member of the 1st entity, a single observation having at least one variable describing historical transactions pertaining to that member, the method comprising:

a direct profile process that generates a direct profile of an entity having members, from historical transactions of the members of the entity;

an enhance process that enhances the profile of an entity using a profile of another entity by combining portions of observations of the entities that have a common member;

multiple applications of the direct profile process with respect to the 1st, 2nd, and 3rd entities to produce respective 1st, 2nd, and 3rd profiles, wherein the 3rd entity is a combination of the 1st and 2nd entities, wherein said 1st and 2nd entities are an interacting pair of entities;

an application of the enhance process on the profile of the 3rd entity with the profile of the 2nd entity to produce an enhanced 3rd entity profile; and

an application of the enhance process on the profile of the 1st entity with the enhanced profile of the 3rd entity.

33. (previously presented) A computer implemented system of generating an enhanced profile of a 1st entity, the 1st entity having a plurality of members, the enhanced profile of the 1st entity including for each member of the 1st entity, a single observation having at least one variable describing historical transactions pertaining to that member, the method comprising:

direct profile means for generating a direct profile of an entity having members, from historical transactions of the members of the entity;

enhancing means for enhancing the profile of an entity using a profile of another entity by combining portions of observations of the entities that have a common member; and

means for applying the direct profile means and the enhancing means in parallel and serial applications with respect to 1st, 2nd, and 3rd entities to produce respective 1st, 2nd, and 3rd profiles, wherein the 3rd entity is a combination of the 1st and 2nd interacting pair of entities to produce direct profiles of the 1st, 2nd, and 3rd entities, and to enhance the profiles of the 1st entity using profiles of the 2nd and 3rd entities.

34. (previously presented) A computer implemented method of generating a profile of a entity, the 1st entity having a plurality of members, the enhanced profile of the 1st entity including for each member of the 1st entity, a single observation having at least one variable describing historical transactions pertaining to that member, the method comprising:

generating a 1st profile of a combination of a 1st and 2nd interacting pair of entities, from historical transactions pertaining to both the 1st and 2nd entities, the 1st profile including one observation for each combination of a member of the 1st entity and interacting with a member of the 2nd entity;

generating a 2nd profile of a combination of the 2nd and a 3rd entity, from historical transactions pertaining to both the 2nd and 3rd entities, the 2nd profile including one observation for each combination of a member of the 2nd entity and a member of the 3rd entity; and

enhancing the 1st profile using the observations of the 2nd profile that have a same member of the 1st entity and the 2nd entity, to describe a statistical relationship between the 1st entity and the 3rd entity.

35. (previously presented) A computer implemented method of generating a profile of an entity, comprising:

generating a profile of a 1st entity;

generating a profile of at least one 2nd entity that interacts with the 1st entity through transactions with the 1st entity;

generating a profile of at least one 3rd entity comprising the combination of the interactive 1st and 2nd entities; and

enhancing the profile of the 1st entity with the profile of at least one 3rd entity.

36. (previously presented) A computer implemented method of generating a profile of an entity, comprising:

deriving a 1st profile of a 1st entity using transactions of the 1st entity;

deriving a 2nd profile of a 2nd entity that interacts with the 1st entity through transactions with the 1st entity;

merging the 1st and 2nd profiles to create a merged profile representing an entity comprising interacting 1st and 2nd entities;

deriving a new variable from other variables of the merged profile;

rolling up the merged profile with respect to the new variable.

37. (previously presented) A computer implemented method of generating a profile of an entity, comprising:

generating a profile of a 1st entity from historical transactions of the 1st entity, said historical transactions comprising said 1st entity interacting with at least a 2nd entity, the profile containing a plurality of variables;

receiving new transactions of the 1st entity; and

updating at least one variable of the profile of the 1st entity using only the at least one profile variable and the new transactions, without using the historical transactions from which the profile was generated.

38. (previously presented) A computer implemented method of updating a profile of an entity, the profile including for each member of the entity, a single observation having at least one variable describing historical transactions pertaining to that member, the method comprising:

performing with respect to multiple distinct entities, multiple applications of a direct profile process that generates a direct profile of an entity having members, from historical transactions of the members of each of the entities, including at least one multiple entity comprising a combination of individual entities and interacting pairs of entities, to produce respective individual and multiple entity profiles;

at least one application of an enhance process to enhance the profile of a multiple entity with the profile of a single entity by combining observations in the multiple entity profile that have a common member in the single entity profile;

receiving new transactions of the multiple entity; and

updating at least one variable of the profile of the multiple entity using only the at least one profile variable and the new transactions, without using the historical transactions from which the profile of the multiple profile was generated.

39. (previously presented) A computer implemented method of generating a profile of a first entity, the profile including for each member of the first entity, a single observation having at least one variable describing historical transactions pertaining to that member, the method comprising:

generating a first profile of the entity from historical transactions pertaining to the first entity, the first profile including one observation for each member of the first entity, the observation having at least one variable summarizing the historical transactions of the member of the first entity;

generating a second profile of a second entity from historical transactions pertaining to the second entity, the second profile including one observation for each member of the second entity, the observation including at least one variable summarizing the historical transactions of the member of the second entity;

generating a third profile of a third entity comprising a combination of the interacting first and second entities, from historical transactions pertaining to both the first and second entities, the third profile including one observation for each combination of a member of the first entity ~~and~~ interacting with a member of the second entity, the observation including at least one variable describing the transactions of the member of the first entity with respect to the member of the second entity;

enhancing the third profile using the second profile by combining at least a portion of observations from the second profile with observations from the third profile that have a same member of the second entity, to produce an enhanced third profile; and

enhancing the first profile using the enhanced third profile by combining at least a portion of observations from the third profile with observations from the first profile that have a same member of the first entity, to produce an enhanced first profile.

40. (original) The method of Claim 39, wherein enhancing the first profile using the enhanced third profile comprises:

merging the observations from the first profile with observations of the enhanced third profile that have a same member of the first entity; and

for each member of the first entity, rolling up all observations in the first profile for the member into a single observation having at least one variable describing

interactions of the member of the first entity with respect to other members of the first entity.

41. (original) The method of Claim 39, wherein enhancing the third profile using the first profile by combining observations from the first profile with observations from the third profile that have a same member of the first entity, further comprises:

merging the observations of the third profile with observations of the first profile that have a same member of the first entity; and

rolling up the observations in the merged third profile with respect to each member of the first entity, to produce the enhanced third profile containing one observation for each member of the first entity, the observation including at least one variable describing the interaction of the member of the first entity with respect to members of the second entity.

42. (previously presented) A computer implemented method of generating a profile of a Target entity, the profile including for each member of the Target entity, a single observation having at least one variable describing historical transactions pertaining to that member, the method comprising:

generating a Target profile of the Target entity from historical transactions pertaining to the Target entity, the Target profile including one observation for each Target entity member, the observation having at least one variable summarizing the historical transactions of the Target entity member;

generating an entity A profile of a second entity A from historical transactions pertaining to entity A, the entity A profile including one observation for each entity A member, the observation including at least one variable summarizing the historical transactions of the entity A member;

generating a T/A profile of a T/A entity comprising a combination of the interacting Target entity and entity A, from historical transactions pertaining to both the Target entity and A entity, the T/A profile including one observation for each combination of a Target entity member interacting with an entity A member, the observation including at least one variable describing the transactions of the Target entity member with respect to the entity A member;

enhancing the T/A profile using the entity A profile by combining observations from the T/A profile with observations from the entity A profile that have a same entity member, to produce an enhanced T/A profile; and

enhancing the Target entity profile using the enhanced T/A profile by combining observations from the Target profile with observations from the T/A profile that have a same entity member, to produce the Target entity profile.

43. (original) The method of Claim 42, wherein enhancing the Target entity profile using the enhanced T/A profile further comprises:

merging the observations from the Target profile with observations of the enhanced T/A profile that have a same entity member; and

for each entity member of the Target entity, rolling up all observations in the Target profile for the entity member into a single observation having at least one variable describing interactions of the Target entity member with respect to other Target entity members.

44. (original) The method of Claim 42, wherein enhancing the T/A profile using the entity A profile further comprises:

merging the observations of the T/A profile with portions of the observations of the entity A profile that have a same entity member; and

rolling up the observations in the merged T/A profile with respect to each entity A member, to produce the enhanced T/A profile containing one observation for each entity A member, the observation including at least one variable describing the interaction of the T/A entity member with respect to entity A members.

45. (previously presented) A computer implemented method of generating a profile of a first entity, the profile including for each member of the first entity, a single observation having at least one variable describing historical transactions pertaining to that member, the method comprising:

generating a first profile of the entity from historical transactions pertaining to the first entity, the first profile including one observation for each member of the first entity, the observation having at least one variable summarizing the historical transactions of the member of the first entity;

generating a second profile of a second entity from historical transactions pertaining to the second entity, the second profile including one observation for each member of the second entity, the observation including at least one variable summarizing the historical transactions of the member of the second entity;

generating a third profile of a third entity comprising a combination of the interacting first and second ~~entity~~ entities, from historical transactions pertaining to both

the first and second entities, the third profile including one observation for each combination of a member of the first entity interacting with a member of the second entity, the observation including at least one variable describing the transactions of the member of the first entity with respect to the member of the second entity;

generating a fourth profile of a fourth entity from historical transactions pertaining to the fourth entity, the fourth profile including one observation for each member of the fourth entity, the observation including at least one variable summarizing the historical transactions of the member of the fourth entity;

generating a fifth profile of a fifth entity comprising a combination of the interacting first and fourth entity, from historical transactions pertaining to both the first and fourth entities, the fifth profile including one observation for each combination of a member of the first entity interacting with a member of the fourth entity, the observation including at least one variable describing the transactions of the member of the first entity with respect to the member of the fourth entity;

enhancing the third profile using the first profile by combining observations from the first profile with observations from the third profile that have a same member of the first entity, to produce an enhanced third profile;

enhancing the fifth profile using the first profile by combining observations from the first profile with observations from the fifth profile that have a same member of the first entity, to produce an enhanced fifth profile; and

enhancing the first profile using the enhanced third profile and the enhanced fifth profile.

46. (original) The computer implemented method of Claim 45, wherein enhancing the first profile using the enhanced third profile and the enhanced fifth profile further comprises:

merging the observations from the first profile with observations of the enhanced third profile that have a same member of the first entity;

merging the observations from the first profile with observations of the enhanced fifth profile that have a same member of the first entity; and

for each member of the first entity, rolling up all observations in the first profile for the member into a single observation having at least one variable describing interactions of the member of the first entity with respect to other members of the first entity.